

# Chula Vista Climate Change Impacts & Adaptation Options

## ECOSYSTEMS & BIODIVERSITY

Draft Updated: 3/18/2010

CLIMATE CHANGES	IMPACT TO SAN DIEGO REGION	HOW IS CHULA VISTA VULNERABLE TO IMPACTS? (pressure on economy, physical infrastructure, society, environment, & other systems)		ADAPTATION OPTIONS (potential responses to manage vulnerabilities)	Source of Adaptation Option
Warmer temperatures & more variable precipitation	"Climatic envelopes" where specific species can survive will shift	A	Plants and animals can't move rapidly enough to survive, or can't move upland to cooler areas due to urban areas		
			1	Review local habitat management plans (Chula Vista MSCP Subarea Plan) to ensure adequate connectivity, open space, and diversity of topographic and climatic conditions are provided for species to move as climate shifts. Where possible, work with adjacent public land managers.	Keene, Chicago
			2	Seek opportunities to partner with the Wildlife Agencies and/or adjacent public land managers to monitor local habitats and species dispersion, in order to assess impacts associated with climate change on the City's biodiversity and ecosystems	California
			3	As funding becomes available, implement active habitat restoration and enhancement in MSCP areas to reduce impact of climate change stressors and improve overall resiliency of local habitats	Miami Dade County
			4	Seek funding opportunities for potential land acquisitions and/or development of management programs, such as the creation of a "carbon credit purchasing program" in order to preserve additional open space that may be contiguous with the City's Preserve	Miami Dade County
			5	Assess need for securing strategic open lands to provide transition zones to accommodate retreat or spatial shifts in natural areas such as coastal wetlands and freshwater marshes	Miami Dade County, SF Estuary Project, Massachusetts
			6	Educate the public about the impacts of climate change and what the community is doing to address impacts to canyons, parks, coastal ecosystems in community newsletters, websites, public events, and trailheads	Keene
			7	Support a program to remove invasives and restore native species where possible	Peconic Estuary
			8	Ensure integrity of MSCP plan is upheld in new regional plans and plan updates	---
	More frequent & intense wildfires	B	Increasing risk of vegetation and habitat conversion, spread of invasives/pests and loss of biodiversity		
			9	Seek potential funding opportunities for fuel management to reduce fire frequency, in balance with efforts to reduce ignition sources, educate the public, and other best practices in managing the wildland urban interface	---

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			10 Encourage establishment of a monitoring program (such as the "Vital Signs" model of the National Park Service), in coordination with existing regional, state and federal programs, to serve as a multi-parameter ecosystem monitoring program (invasives and pests, sea level rise, species phenology, etc)	Miami Dade County
			11 Ensure water-efficient landscape programs and municipal developments encourage use and education of using drought-tolerant plants that are native	Chicago
	Altered timing of stream flow with changing precipitation	C Certain species in riparian ecosystems threatened as water conditions and sediment conditions are altered		
			12 Ensure monitoring and restoration programs include riparian ecosystems as well as terrestrial habitats	California
			13 Create a regional sediment management plan for local watersheds, in partnership, where possible, with the Wildlife Agencies and/or adjacent public land managers	New York-New Jersey Harbor Estuary Program, San Francisco Bay
Sea Level Rise	Sea level rise along coast and Bay	D Coastal habitats (wetlands) and intertidal species inundated if they aren't able to gradually move upland		
			14 Incorporate information on sea level rise into coastal planning and ecosystem management and restoration plans	San Francisco, California
			15 Where it is feasible, consider the potential to allow coastal wetlands to migrate inland (e.g. identifying appropriate setbacks, density restrictions, land purchases) over a timeframe relevant to expected sea level rise	Buzzards Bay (MA), Kauai
			16 Commission research to map and monitor expected inundation zones of coastal habitats over specific time frames and/or increments of sea level rise, in order to determine when and where future tidal wetlands will/can be accommodated	San Rafael, San Francisco Bay
			17 Establish rolling easements to allow coastal landowners to build, but not to prevent shoreline erosion by armoring the shore	Worcester County, South Carolina Coastal Council, California Coastal Commission
			18 Promote natural sediment movement down watersheds	Southern Louisiana

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			19 As funding becomes available, restore coastal habitats, such as the South Bay Salt Ponds, to provide additional habitat and coastal buffer for sea level rise in partnership with other agencies (i.e. Fish and Wildlife Services)	San Francisco Estuary Project, Miami-Dade County
			20 In accordance with the City's MSCP Subarea Plan, incorporate wetland protection, to the maximum extent practicable, into city infrastructure planning (e.g. general plan, transportation, sewer, energy infrastructure planning)	Chula Vista, Houston-Galveston, Keene
	Salt water intrusion into fresh water resources along the coast	E Fewer fresh water supplies available for plants, wildlife, and metropolitan uses		
			21 Review current stormwater management operations (including drainage canals) to eliminate unnecessary overdrainage and saltwater intrusion into ground and surface water resources	Louisiana, Miami Dade County
			22 Prevent or limit groundwater extraction from shallow private wells to protect coastal aquifers from salt water intrusion	EPA, Keene
			23 Recharge groundwater with reclaimed water to prevent saltwater intrusion, where beneficial	Orange County

Sources for Listed Local Impacts and Corresponding Vulnerabilities	
A	<a href="#">Focus 2050 Study Technical Assessment, page 24 (2008).</a>
B	<a href="#">Focus 2050 Study Technical Assessment, page 24 (2008).</a>
	<a href="#">California Adaptation Strategy, p46 (2009).</a>
C	<a href="#">California Adaptation Strategy, p49 (2009).</a>
D	<a href="#">Focus 2050 Study Technical Assessment, page 26 (2008).</a>
	<a href="#">California Adaptation Strategy, p52 (2009).</a>
E	<a href="#">California Adaptation Strategy, p71 (2009).</a>